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readily distinguished by the naked eye. It is more nearly allied to *P. dioica*, Magnus, but whether these two species are identical I can at the present moment hardly say.

King's Lynn, Eng.

CHARLES B. PLOWRIGHT.

Berteroa incana, placed by Bentham and Hooker under Alyssum, but known among other things by its bifid petals with expanded saccate bases, has appeared spontaneously in several places in our city. It was first seen by Mr. J. L. Bennett.

In a field with the above I have found a fine plant of Sonchus

arvensis.

Providence, R. I.

W. WHITMAN BAILEY.

Rudbeckia Missouriensis.—This is between R. hirta and R. fulgida, but more closely allied to the latter. R. Hirta, as compared with fulgida, commences to flower three weeks earlier. When cut through longitudinally the receptacle is narrowly conical, almost lanceolate. The leaves are wide in proportion to length, and remotely edged with minute serratures. The stems and leaves are very rough. The habit is widely branching.

R. fulgida begins to flower three weeks later, has a broadly ovate, somewhat triangular receptacle, narrow leaves, with remote toothed, deeply cut edges, and the stems and leaves clothed with short, soft

hair. The habit is somewhat erect.

R. Missouriensis opens with fulgida, has still narrower leaves than fulgida, and the receptacle is broadly ovate as in fulgida, though more acute at the apex. But the narrow leaves are quite entire, and the whole plant more rough than even the rough R. hirta. There is a greater tendency in the ray-florets of R. Missouriensis to become "quilled," as the florists term it, than in those of the others.

Т. МЕЕНАМ.

## Botanical Notes.

Histo-Chemistry of Plants.—In an interesting contribution to the "histo-chemistry" of plants (Monatshefte, v., 94) Herr Rosoll illustrates the light that can be thrown upon vegetable principles by studying them microchemically in situ in the plant. The first plant mentioned is *Helichrysum bracteatum*, the yellow flower-heads of which are well known as a variety of "everlasting flowers." This vellow color is very persistent, but when the dried flower-heads are dipped into borax solution to which hydrochloric acid has been added, the involucral leaflets become of a beautiful ruby-red color. Further investigation showed this yellow pigment to be a hitherto undescribed quinone-like substance, which Herr Rossoll has named "helichrysin." In the younger leaflets it exists in combination with protoplasm, whilst in the older ones it has its seat in the residual cell contents. Helichrysin is soluble in water, alcohol, ether and organic acids; insoluble in benzol, chloroform and carbon bisulphide; is colored purple-red by mineral acids and alkalies; and is precipitated by metallic oxides and their salts as a red colored extract. The same